

REMARKS

This paper is responsive to any paper(s) indicated above, and is responsive in any other manner indicated below.

STATEMENT OF SUBSTANCE OF INTERVIEW

The following statement of the substance of the telephonic interview conducted between the Examiner and the undersigned on March 15, 2006 is being submitted. The Examiner's statement of the substance of the interview in the Interview Summary is complete and correct.

PENDING CLAIMS

Claims 1-22 were pending, under consideration and subjected to examination in the Office Action. At entry of this paper, Claims 1-22 remain pending for further consideration and examination in the application.

'112, 1ST PARA. "WRITTEN DESCRIPTION" REJECTION - TRAVERSED

Claims 1-20 have been rejected, under 35 USC '112, first paragraph, as failing to comply with the written description requirement, for the concerns listed within the item 5 on page 3 of the Detailed Action portion of the Office Action. Traversal is appropriate, because the Office Action listed feature was sufficiently described/taught within Applicant's original disclosure.

More particularly, attention is directed to the data emphasis circuit 110 and the illumination drive circuit 310 in Applicant's FIG. 1 (for example). The data emphasis circuit 110 is the circuit which compares new/previous display data, and

outputs a control signal. Applicant's FIG. 2 shows that the data emphasis circuit 110 includes a data emphasis operational circuit 112, and a frame memory 111. Note that picture signal "DATA" line in FIG. 2 goes to both the Frame Memory 111, and to the Data Emphasis Operation Circuit 112, and Frame Memory 111 output goes to the Data Emphasis Operation Circuit 112. Turning to textual disclosure, Applicant's original specification page 8, lines 6-9 teaches that, "The image data supplied from the image signal source is stored into a frame memory 111 and compared with the image data of the previous frame stored in the frame memory 111 pixel by pixel using the data emphasis operational circuit 112." Thus, a comparison control signal is produced.

Next, Applicant's original specification page 12, lines 10-13, in turn, teach, "...the drive circuit 310 for the illumination unit 300 can light the individual areas with their own different illumination start time and illumination "on" time in response to a control signal supplied from the display controller 110." Note in FIG. 1, the Control Signal is illustrated as going to the drive circuit 310. Thus, in this embodiment, Applicant's drive circuit 310 is Applicant's claimed "illumination control means". Applicant's specification only teaches one type of control signal output from the display controller 110, i.e., a new/previous display data comparison. Thus, Applicant's drive circuit 310 is responsive to a display data comparison control signal, and "can light the individual areas with their own different illumination start time and illumination "on" time in response" thereto. Clearly, the above-mentioned FIGS. and textual descriptions explicitly teach Applicant's invention.

Perhaps, the Examiner is setting forth a position with the 112, 1st para. rejection, that phrases (e.g., "in response to a result of the comparison of a new

display data with a previous display data" and "in response to a result of the comparison of a new picture signal with a previous picture signal") used within a claim must be found in the same words within the specification, or else a "written description" rejection is appropriate. Traversal is appropriate as follows.

First, MPEP 2163 (directed to "written description" guidelines) itself, explicitly states "...there is no *in haec verba* requirement..." (i.e., "in the same words" requirement) with respect to "written description". MPEP 2163 continues to state simply that "...newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure." MPEP 2163 states two other guidelines of relevance to the present rejection, i.e., "To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention", and secondly, "...the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims." Here, the Office Action comments have erroneously focused in on Applicant's second (FIG. 8) embodiment, whereas the above-mentioned FIGS./text explicitly teach Applicant's claimed limitations. Accordingly, it is respectfully submitted that the Examiner has not met his/her initial burden to support the "written description" rejection.

In addition to the foregoing, Applicant's foreign representative also supplies the following comments. More particularly, according to Embodiment 2, a new display data (new picture signal) and a previous display data (previous picture signal) from the flame memory 111 are inputted to the illumination lighting controller

122 shown in Fig. 8. The illumination lighting controller 122 performs the comparison of the previous display data and the new display data with each other (as in the data emphasis operation circuit 112), and in response to the result thereof, controls an illumination start time and an illumination "on" time of each of the illumination unit.

As far as Embodiment 2, a skilled artisan would recognized that such comparison must be naturally performed in view of the following descriptions in the specification:

(1) Page 14, lines 13-15--"the average value of the individual gradation weighted with the number of pixels displayed for the individual areas is estimated in real time".

This estimation cannot be performed unless the comparison is performed. It is thus apparent from Embodiment 1 and so on that the "on" time and the start time which are optimal for each individual gradation vary according to the new display data, the corresponding previous display data and the amount of overshoot. Therefore, in order to estimate the average value in real time, the comparison and the calculation of the amount of overshoot have to be performed in or by the illumination lighting controller 122 as in the data emphasis operational circuit 112.

(2) Page 14, lines 19-23---"the time integral values of the transmission factor for the frame in which the transmission factor changes due to the overshoot drive can be precisely identical to the time interval value of the transmission factor for the frame in which the transmission factor reaches a designated level and stays in a stable state"

The start time and the "on" time need to be controlled precisely in order to cause the integrated transmission factor for the frame in which the transmission factor is changed and the integrated transmission factor for the frame in which the

transmission factor is stable to precisely coincide with each other. Further, in order to control the start time and the "on" time precisely, it is apparent that the previous display data before the transmission factor is changed, the new display data after the transmission factor has been changed, and the amount of overshoot due to the comparison of the previous and new data with each other need to be calculated, respectively.

As readily seen from the above, the comparison of the previous display data and the new data with each other is performed also in or by the illumination lighting controller 122 (as in the data emphasis operational circuit 112) and the illumination start time and the illumination "on" time of each illumination unit is controlled in response to the result of the comparison.

Based upon the foregoing, reconsideration and withdrawal of the above-referenced rejection are respectfully requested. If the Examiner continues such rejection, the Examiner should provide "**evidence or reasons why persons skilled in the art would not have recognized in the disclosure a description defined by the claims**", as required by MPEP 2163.

35 USC §112, SECOND PARA. REJECTION-TRAVERSED/IMPROPER

Claims 2, 3, 14 and 15 (and Claims 5, 6, 8, 9, 17 and 20) stand rejected under 35 USC §112, second paragraph, for the Office Action concerns listed at Items 6-8 on pages 3 and 4 of the Office Action. Applicant respectfully traverses the rejection, and respectfully submits that the rejection is unsupported for the following reasons.

**IT IS RESPECTFULLY SUBMITTED THAT THE EXAMINER IS
INCORRECTLY IGNORING MPEP AND COURT GUIDANCE REGARDING
USAGE OF "SUBSTANTIALLY", I.E., BOTH THE USPTO AND THE COURTS
EXPLICITLY CONDONE THE USAGE OF "SUBSTANTIALLY" AND DO NOT
CONSIDER THE SAME TO BE INDEFINITE. IN FACT, THE VALIDATING USAGE
EXAMPLE SET FORTH WITHIN THE MPEP IS VERY CLOSE TO THE PRESENT
USAGE.**

More particularly, as indicated at MPEP §2173.05(b), the term "substantially" may very well be used in conjunction with another term to describe a particular characteristic of the claimed invention, and such terms are definite. As one very relevant example described in the MPEP, the Court in *Andrew Corp. v. Gabriel Electronics*, 847 F.2d 819, 6 USPQ2d 2010 (Fed. Cir. 1988) ruled that the limitation "which produces substantially equal E and H plane illumination patterns" was definite because one of ordinary skill in the art would know what was meant by "substantially equal."

Likewise, Applicant respectfully submits that the term "substantially identical" in the present application also is definite, since one of ordinary skill would know what such term means in context with Claims 2, 3, 14 and 15 (and Claims 5, 6, 8, 9, 17 and 20). **More particularly, given that inventors/USPTO/court recognize that it is nearly impossible (e.g., because of manufacturing tolerances, calculation limitations, etc.) to make something "identical," the word "substantially" is very commonly used, and widely accepted, in many patented claims to account for acceptable variation. The Examiner is respectfully requested to**

access MPEP §2173.05(b) regarding acceptability of use of the term

"substantially".

In view of the above, Applicant respectfully submits requests reconsideration and withdrawal of the rejection under 35 USC §112, second paragraph.

REJECTION UNDER 35 USC §103 - TRAVERSED

The 35 USC §102 rejection of Claims 1-20 stand unpatentable over Okumura *et al.* (US 6,115,018 A) in view of Chen (US 5,592,193 A) is respectfully traversed. Such rejection has been made obsolete by the present clarifying amendments to the claims, and accordingly, traversal arguments are not appropriate at this time. However, Applicant respectfully submits the following to preclude further rejection of the claims.

All descriptions of Applicants disclosed and claimed invention, and all descriptions and rebuttal arguments regarding the applied prior art, as previously submitted by Applicant in any form, are repeated and incorporated herein by reference. Further, all Office Action statements regarding the prior art rejections are respectfully traversed.

As set out in the decision *In re Fine*, 5 USPQ2d 1596 (Fed. Cir. 1988), the court points out that the PTO has the burden under §103 to establish a *prima facie* case of obviousness, and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. However, the cited prior art does not adequately support a §103

obviousness-type rejection because it does not, at minimum, disclose (or suggest) the following limitations of Applicant's clarified claims.

More particularly, Applicant's disclosed and claimed combination invention is directed toward liquid crystal display arrangements (e.g., apparatus, methods) allowing generation/display of high quality motion pictures with less after image when displaying motion pictures, and with less fuzzy images due to equalization. Applicant found that such could be accomplished by comparing a prior image together with a present image, and then adjusting both of an LCD's illumination start/on times responsive to a result of the comparison. Accordingly, in terms of claim language, Applicant's independent Claims 1 and 11, for example, contains the features/limitations: "illumination control means for controlling an illumination start time and an illumination "on" time of each of the illumination areas of the illumination unit in response to a result of the comparison of a new display data with a previous display data."

Regarding rebuttal of the applied art, **Okumura et al. (US 6,115,018 A)** **absolutely fails as a reference**. More particularly Okamura et al. is directed to an active matrix liquid crystal display device arrangement, wherein a differing (voltage) type of adjustment appears to be conducted, and in a differing way (from Applicant's claimed invention). Even assuming arguendo that Okamura et al. does do some type of comparison of one frame and a next frame, Okamura et al. still fails in at least two (2) ways.

First, it is respectfully noted that **Okumura et al. is correcting "voltage," as opposed to Applicant's "start/on times."** **Second**, Okamura et al. does not teach timing control, i.e., Okumura et al.'s Column 8, lines 7 and 8, clearly states that

correction is done at “arbitrary timing.” Clearly, Okamura *et al.* teaches away from Applicant's disclosed and claimed invention.

Chen (US 5,592,193 A) is directed to a backlighting arrangement for an LCD display panel realizing improved efficiencies. In order to accomplish the same, the Chen arrangement utilizes a plurality of lights along the backlighting arrangement, and actuates each of the light sources in a sequential manner synchronously (*e.g.*, from top to bottom) for illuminating only that portion of the display panel providing a video image at a given time (see sequence of Chen's FIGS. 4-6). Chen's column 5, lines 3-6 text states that the **“downward “ON” sequencing of the light-emitting zones 64a-64j is performed synchronously with the sequential actuation of the LCD panel's scanning electrode arrays.”** In short, Chen's disclosure (like Okamura *et al.*'s) **does not teach adjusting both of an LCD's illumination start/on times responsive to a result of the comparison.**

THE EXAMINER CONTINUES TO IGNORE THE MAJOR DEFICIENCIES WITH RESPECT TO THE APPLIED REFERENCES, I.E., NEITHER DOES START/STOP CONTROLLING RESPONSIVE TO A RESULT OF COMPARISON.

Given that neither reference discloses start/on time adjustment responsive to comparison, it is respectfully submitted that the applied references, whether taken respectively alone, or taken in combination, would not have disclosed or suggested Applicant's invention. That is, at best, combination would only logically suggest Okamura *et al.*'s “voltage” level controlling arrangement, with Chen's arrangement of the **“downward “ON” sequencing of the light-emitting zones 64a-64j is**

performed synchronously with the sequential actuation of the LCD panel's scanning electrode arrays."

In addition to the foregoing, the following additional remarks from Applicant's foreign representative are also submitted in support of traversal of the rejection and patentability of Applicant's claims.

The word "response" in this application is indicative of the time change in the transmission factor for a certain area when the display of the liquid crystal display device is changed. The word is used when the display is changed from white to black or when a moving image is displayed. Therefore, it is not used in connection with the movement of the scanning line.

Chen discloses an illumination unit having a plurality of illumination areas illuminating corresponding areas of the liquid crystal display, respectively (see Fig. 3, elements 64, 64a-j, and 62), and means for controlling the individual areas for illumination (see Fig. 8, element 66). However, Chen fails to disclose or teach "controlling an illumination start time" and an illumination "on" time of each of the illumination areas of the illumination unit in response to a response of the liquid crystal display part" as alleged by the Examiner.

The Examiner refers to column 4, line 28 to column 5, line 6 of Chen in connection with its illumination unit. In Chen, however, the description concerning the control of the illumination unit 64a-j is merely made at column 4, line 55 to column 5, line 6. Especially, at column 4, line 67 to column 5, line 6, the following is described:

"The display/backlight panel synchronized driver 64 (this should be read 66) actuates each of the light-emitting zone 64a-64j in a sequential manner downwardly

in the direction of arrow 74. This downward "ON" sequencing of the light-emitting zones 64a-64j **is performed synchronously with sequential actuation of the LCD panel's scanning electrode arrays.**"

As readily seen, though Chen discloses that the "ON" sequencing of the light-emitting zones 64a-64j is synchronized with the sequential actuation of the LCD panel's scanning electrode arrays, **it does not teach that the "ON" sequence is changed** according to not only the time change in the transmittance (transmission factor) but also the result of the comparison of a new display data and a previous display data.

The "ON" sequencing corresponds to "a start time" of the present invention. Therefore, Chen teaches nothing about the feature of controlling an "on" time of the present invention. This is clear in view of the fact that, although in the description in column 4, line 23 to column 5, line 6 pointed out by the Examiner the term "ON" appears 8 times, it has nothing to do with the "on" time of the present invention. Incidentally, "ON" in column 4, line 40; column 4, line 44 and column 5, line 3 relates only to an "ON".state of the liquid crystal and not an "on" time or an "on" state of the light-emitting zone 64a-j. Further, "ON" in column 5, line 3 relates only to the "ON" sequencing.

As to claims 2 et seq., the Examiner indicates, while referring to column 4, line 28 to column 5, line 8 of Chen, that the illumination control means controls the illumination start time and the illumination "on" time of a corresponding of the illumination area of the illumination unit so that a time integral value of an amount of light passing through the corresponding pixel while a display characteristics are changing is substantially identical to a time integral value of an amount of light

passing through the corresponding pixel while the display characteristics are stable. However, Chen fails to teach or suggest, in the above location pointed out by the Examiner, means for controlling the "on" time and the feature "time integral value of an amount of light passing through the corresponding pixel" of the present invention.

As a result of all of the foregoing, it is respectfully submitted that the applied art would not support a §103 obviousness-type rejection of Applicant's claims. Accordingly, reconsideration and withdrawal of such §103 rejection, and express written allowance of all of the rejected claims, are respectfully requested.

EXAMINER INVITED TO TELEPHONE

The Examiner is herein invited to telephone the undersigned attorneys at the local Washington, D.C. area telephone number of 703/312-6600 for discussing any Examiner's Amendments or other suggested actions for accelerating prosecution and moving the present application to allowance.

RESERVATION OF RIGHTS

It is respectfully submitted that any and all claim amendments and/or cancellations submitted within this paper and throughout prosecution of the present application are without prejudice or disclaimer. That is, any above statements, or any present amendment or cancellation of claims (all made without prejudice or disclaimer), should not be taken as an indication or admission that any objection/rejection was valid, or as a disclaimer of any scope or subject matter. Applicant respectfully reserves all rights to file subsequent related application(s) (including reissue applications) directed to any/all previously claimed

limitations/features which have been subsequently amended or cancelled, or to any/all limitations/features not yet claimed, i.e., Applicant continues (indefinitely) to maintain no intention or desire to dedicate or surrender any limitations/features of subject matter of the present application to the public.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully submits that the claims listed above as presently being under consideration in the application are now in condition for allowance.

To the extent necessary, Applicant petitions for an extension of time under 37 CFR 1.136. Authorization is herein given to charge any shortage in the fees, including extension of time fees and excess claim fees, to Deposit Account No. 01-2135 (Case No. 503.39221CX1) and please credit any excess fees to such deposit account.

Based upon all of the foregoing, allowance of all presently-pending claims is respectfully requested.

Respectfully submitted,

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